

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1 and 2 (previously canceled)

Claims 3-13 (currently canceled)

Claims 14 and 15 (previously canceled)

Claims 16-27 (currently canceled)

Claims 28-36 (previously canceled)

Claims 37-45 (currently amended)

Claims 46-54 (new)

46. (new) An isolated eukaryotic neutral sphingomyelinase comprising a sequence according to
- a) SEQ ID NO: 1 or SEQ ID NO: 2, or
 - b) a variant of SEQ ID NO: 1 or SEQ ID NO: 2 having eukaryotic neutral sphingomyelinase enzymatic activity, wherein the variant is
 - i) a naturally occurring allelic variation of SEQ ID NO: 1 or SEQ ID NO: 2, or
 - ii) SEQ ID NO: 1 or SEQ ID NO: 2 having one inserted, deleted, or conservatively substituted amino acid, or
 - iii) –terminally truncated or C-terminally truncated SEQ ID NO: 1 or SEQ ID NO: 2, or

- iv) an acetylated, glycosylated, amidated, or phosphorylated naturally occurring allelic variation of SEQ ID NO: 1 or SEQ ID NO: 2, or
- v) an acetylated, glycosylated, amidated, or phosphorylated SEQ ID NO: 1 or SEQ ID NO: 2 having one inserted, deleted, or conservatively substituted amino acid, or
- vi) an acetylated, glycosylated, amidated, or phosphorylated –terminally truncated or C-terminally truncated SEQ ID NO: 1 or SEQ ID NO: 2, or
- vii) an acetylated, glycosylated, amidated, or phosphorylated SEQ ID NO: 1 or SEQ ID NO: 2.

47. (new) An –terminally truncated or C-terminally truncated SEQ ID NO: 1 or SEQ ID NO: 2 having eukaryotic neutral sphingomyelinase enzymatic activity.

48. (new) A medicament containing the isolated eukaryotic neutral sphingomyelinase according to claim 46, together with auxiliary agents.

49. (new) A diagnostic agent containing the isolated eukaryotic neutral sphingomyelinase according to claim 46, together with auxiliary agents.

50. (new) The isolated eukaryotic neutral sphingomyelinase of claim 46, wherein the sequence is SEQ ID NO: 1 or SEQ ID NO: 2.
51. (new) The isolated eukaryotic neutral sphingomyelinase of claim 46, wherein the sequence is a variant of SEQ ID NO: 1 or SEQ ID NO: 2 having eukaryotic neutral sphingomyelinase enzymatic activity, wherein the variant is a naturally occurring allelic variation of SEQ ID NO: 1 or SEQ ID NO: 2.
52. (new) The isolated eukaryotic neutral sphingomyelinase of claim 46, wherein the sequence is a variant of SEQ ID NO: 1 or SEQ ID NO: 2 having eukaryotic neutral sphingomyelinase enzymatic activity, wherein the variant is SEQ ID NO: 1 or SEQ ID NO: 2 having one inserted, deleted, or conservatively substituted amino acid.
53. (new) The isolated eukaryotic neutral sphingomyelinase of claim 46, wherein the sequence is a variant of SEQ ID NO: 1 or SEQ ID NO: 2 having eukaryotic neutral sphingomyelinase enzymatic activity, wherein the variant is –terminally truncated or C-terminally truncated SEQ ID NO: 1 or SEQ ID NO: 2.
54. (new) The isolated eukaryotic neutral sphingomyelinase of claim 46, wherein the sequence is a variant of SEQ ID NO: 1 or SEQ ID NO: 2 having eukaryotic neutral

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sphingomyelinase enzymatic activity, wherein the variant is acetylated, glycosylated, amidated, and/or phosphorylated SEQ ID NO: 1 or SEQ ID NO: 2.